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USPSTF Updates Recommendation for Obstructive Sleep Apnea Screening in Adults

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The US Preventive Services Task Force (USPSTF) was created in 1984 as an independent, volunteer panel of national experts in prevention and evidence-based medicine. It works to improve the health of all persons in the US by making recommendations about clinical preventive services such as screenings, counseling services, and preventive medications.¹

The 2022 USPSTF obstructive sleep apnea (OSA) screening recommendation,² supported by an updated evidence report and systematic review,³ applies to asymptomatic adults 18 years or older. It also applies to adults with unrecognized

symptoms of OSA but does not apply to persons presenting with symptoms (eg, snoring, witnessed apnea, excessive daytime sleepiness, impaired cognition, mood changes, gasping or choking



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while asleep) or concerns about OSA, persons who have been referred for evaluation or treatment of suspected OSA, or persons who have acute conditions that could trigger the onset of OSA (eg, stroke). Risk factors associated with OSA were male sex, older age (40-70 years), postmenopausal status, higher body mass index, and craniofacial and upper airway abnormalities (eg, enlarged tonsils or long upper airway).²

Research methods for the recommendation had 2 investigators independently selecting English-language studies using a priori criteria.³ Eligible studies included randomized clinical trials (RCTs) of screening for or treatment of OSA reporting on health outcomes, studies evaluating accuracy of screening questionnaires or clinical prediction tools in asymptomatic adults with OSA or persons with unrecognized symptoms of OSA, and systematic reviews of treatment reporting on changes in blood pressure and apnea-hypopnea index (AHI) scores.

The USPSTF recommendation is unchanged from 2017 and concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for OSA in the general adult population.² The decision was given an I statement, which indicates insufficient evidence (Table).³

Screening questionnaires and clinical prediction tools such as the Epworth Sleepiness Scale (ESS), STOP (Snoring, Tiredness, Observed Apnea, High Blood Pressure) questionnaire, STOP-BANG (STOP questionnaire plus Body Mass Index, Age, Neck Circumference, and Gender) questionnaire, Berlin questionnaire, Wisconsin sleep questionnaire, and the Multivariable Apnea Prediction tool have not been validated in general populations enrolled from primary care settings, so they are not adequate in a primary care practice for purposes of screening. The USPSTF found no studies that evaluated the effect of

Table. US Preventive Services Task Force Grades

Grade	Definition
A	Recommended
B	Recommended
C	Recommendation depends on the patient's situation
D	Not recommended
I statement	There is not enough evidence to make a recommendation

screening for OSA on health outcomes, though it did identify and review studies on the effect of treatment on health and intermediate outcomes.

Treatment modalities were evaluated for primary outcome (eg, an improvement in health outcomes). Obstructive sleep apnea has been associated with cardiovascular disease (eg, coronary heart disease, stroke, hypertension, type 2 diabetes, metabolic syndrome). Although OSA is associated with increased all-cause mortality, the role OSA plays in increasing overall mortality independent from other risk factors (eg, older age, higher body mass index, other cardiovascular risk factors) is less clear.

Studies included evaluated intermediate outcomes such as changes in AHI, blood pressure, and ESS score. In 2017, RCTs involving positive airway pressure (PAP) showed that treatment of OSA with continuous PAP and mandibular advancement devices (MADs) improved intermediate outcomes, such as AHI, blood pressure, and ESS score, though there are no studies demonstrating that those changes improve health outcomes or are clinically relevant.¹ The screening guideline represents that there are no well-controlled trials that have demonstrated an improvement in mortality with treatment of OSA.²

Unfortunately, the USPSTF only reviewed evidence evaluating the effect of PAP and MADs for treatment and outcomes. Positive airway pressure was associated with small improvements in general health-related and sleep-related quality of life. However, the improvements are not clinically meaningful. The findings for MADs were inconsistent or imprecise, making it difficult to draw conclusions on the quality-of-life benefits.

Excluded from the analysis in 2017 and 2022³ were any studies evaluating upper airway surgery treatment or outcomes. The explanation for the omission is that “surgical interventions for OSA are available, but they generally are not considered first-line treatments.”² A 2010 study by Kezirian et al that included data from 2006 to 2010 indicated that surgical treatment is performed in 0.2% of all adults with OSA annually, based on administrative data with inherent limitations.⁴ When the USPSTF released the 2022 recommendation² for public comment, the American Academy of Otolaryngology-

Head and Neck Surgery Sleep Disorders Committee submitted comments that strongly encouraged the USPSTF to include upper airway surgery in treatments, health outcomes, and intermediate outcomes available in the literature.

A retrospective cohort study of a population of 21 000 US veterans with OSA who underwent uvulopalatopharyngoplasty (UPPP) or used continuous PAP was adjusted for gender, race, and comorbidities; the mortality rate for patients who underwent UPPP was 30% lower for each of the 5 years of follow-up and would be considered a health outcome improvement.⁵ A study of the Korean national health insurance corporation database of more than 200 000 patients with OSA evaluated the effectiveness of UPPP on major cardiovascular outcomes with 8 years of follow-up.⁶ Patients undergoing UPPP (n = 22 000) demonstrated a reduction in the incidence of myocardial infarction, congestive heart failure (CHF), and atrial fibrillation (AF) compared with a control population of 190 000 patients and 76 000 patients with OSA who were untreated. Patients with OSA had an increased risk of CHF and AF compared with control patients, and UPPP reduced the incidence of CHF and AF considerably.

While not specific to otolaryngology, weight loss and bariatric surgery have been shown in a systematic review to improve OSA,⁷ but neither were included in the analysis.³ It appears that the USPSTF did not evaluate any studies that were not RCTs or systematic reviews specific to PAP and MADs.

In summary, what is new in this update² is that upper airway surgery was specifically mentioned as insignificant for treatment and outcomes for OSA. This recommendation was based on an article that 0.2% of patients with OSA received a surgical procedure.⁴ What is not new is that in the analysis USPSTF performed it concluded that there was insufficient evidence to recommend screening of the general population for OSA. The USPSTF was unable to find evidence of a validated tool to screen for OSA in the general population, and there was a lack of data to support treatment or evidence of improved outcomes. Unfortunately, the only evidence reviewed by the USPSTF was for PAP and MADs despite population-based studies that have reported favorable outcomes for surgery (upper airway and bariatric) and weight loss in terms of treatment and outcomes.

ARTICLE INFORMATION

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REFERENCES

1. US Preventive Services Task Force. Accessed October 26, 2022. <https://www.uspreventiveservicestaskforce.org/uspstf/>

2. US Preventive Services Task Force. Screening for obstructive sleep apnea in adults: US Preventive Services Task Force recommendation statement. *JAMA*. Published online November 15, 2022. doi:10.1001/jama.2022.20304

3. Feltner C, Wallace IF, Aymes S, et al. Screening for obstructive sleep apnea in adults: updated evidence report and systematic review for the US Preventive Services Task Force. *JAMA*. Published online November 15, 2022. doi:10.1001/jama.2022.18357

4. Kezirian EJ, Maselli J, Vittinghoff E, Goldberg AN, Auerbach AD. Obstructive sleep apnea surgery practice patterns in the United States: 2000 to 2006. *Otolaryngol Head Neck Surg*. 2010;143(3):441-447. doi:10.1016/j.otohns.2010.05.009

5. Weaver EM, Maynard C, Yueh B. Survival of veterans with sleep apnea: continuous positive airway pressure versus surgery. *Otolaryngol Head Neck Surg*. 2004;130(6):659-665. doi:10.1016/j.otohns.2003.12.012

6. Lee HM, Kim HY, Suh JD, et al. Uvulopalatopharyngoplasty reduces the incidence of cardiovascular complications caused by obstructive sleep apnea: results from the national insurance service survey 2007-2014. *Sleep Med*. 2018;45:11-16. doi:10.1016/j.sleep.2017.12.019

7. Quintas-Neves M, Preto J, Drummond M. Assessment of bariatric surgery efficacy on Obstructive Sleep Apnea (OSA). *Rev Port Pneumol (2006)*. 2016;22(6):331-336. doi:10.1016/j.rppnen.2016.05.006